

“PRONE”

Introducing risk analysis theory in fisheries management

Fishery management is beset with uncertainty, the causes of which occur from the point of capture through to consumer demand and market fluctuations. Hitherto, there has been little opportunity to allow for uncertainty, yet the likelihood of any given management action having a positive outcome is affected by these uncertainties. Although some sort of risk assessment may be available for the biological impact on fish stocks resulting from management decisions, a systematic approach including also economic and social risks is missing in European fisheries management. Thus, there is no mechanism for dealing with the uncertainty in fish stock assessment and the risk which management decisions based on this represents in social and economic terms.



Improved quantitative and qualitative information on the biological, social and economic consequences of current and alternative actions and tools available to fisheries managers are required to better manage the risks inherent in EU fisheries.

The main objective of the **PRONE** project is therefore to **investigate how risk analysis theory can be adapted to European fisheries management, embracing the full process from stock assessment, projection and advice, via management decisions, to the practical implementation of the management measures, including control.**

This will also include **improved communication of information to stakeholders and fisheries managers** making it easier to achieve the long term goals of fisheries management.

Risk analysis is a formalized approach increasingly used in various types of management, e.g. environment, natural resources, and food safety. As it is comprised of risk assessment, risk management and risk communication, the **components to be incorporated in the PRONE project** include:

- risk identification and probabilistic evaluation of the potential consequences of

alternative management actions, i.e. risk assessment; the formulation of a variety of tools to manage the risks, i.e. risk management; and the development of mechanisms to ensure that the outputs of risk assessment and the risk management options available are adequately understood by stakeholders, i.e. risk communication.

Risk will be analysed from the point of view of management (the possibility to implement the knowledge) and from the point of view of advice (the possibility to understand the given scientific advice).

Four contrasting case studies will be used to illustrate and test the methodology:

- Greece: no Total Allowable Catches (TAC)
- The North Sea: TAC
- Faroe Islands: Individual Transferable Effort (ITE)
- Iceland: Individual Transferable Quota (ITQ)

The scientific approach will review the methodology and the theoretical underpinning of the four case studies including biological, sociological and economic elements. In the second

Project acronym:

PRONE

Full title of Project:

Precautionary risk methodology in fisheries.

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“THE PRONE PROJECT WILL HELP VALIDATE MANAGEMENT DECISIONS BY IDENTIFYING THE RISKS ASSOCIATED WITH EACH OPTION CONSIDERED. BY IDENTIFYING SUCH RISKS, THE MANAGEMENT WILL BECOME MORE TRANSPARENT, TO THE BENEFIT OF ALL STAKEHOLDERS”

part of the study, theoretical findings will be used to construct interviews where the aim is to contrast the theoretical basis with empirical data in order to find practical risk management systems for European fisheries.

This will allow current methodologies, such as the uncertainty methodology currently used by ICES, to be analysed and compared to a fully integrated analysis of uncertainty for the selected case studies. An **additional case study in ecosystem health – human health risk analysis (the Baltic herring dioxin case)** will provide methods to control consumer behaviour in cases where fish consumption may include health risks.

The PRONE project will help improve “risk assessment, risk management and risk communication” within European fisheries. This way, it will help validate management decisions by identifying the risks associated with each option considered, i.e. with different fishery types, management regimes, data collection programs and scientific advisory frameworks. By identifying such risks, the management will become more transparent, to the benefit of all stakeholders.

In addition, the identification and evaluation of economic risk will enable fishery managers, the EU and member states to include the socio-economic aspects in fisheries management. If

successfully implemented, the project recommendations will improve the economic profitability of European fisheries. This is of great importance in ensuring the sustainability of the fisheries since failures in management have been linked to an inability to understand the inherent uncertainty of fisheries systems.